# NOTICES OF PROPOSED RULEMAKING

Unless exempted by A.R.S. § 41-1005, each agency shall begin the rulemaking process by 1st submitting to the Secretary of State's Office a Notice of Rulemaking Docket Opening followed by a Notice of Proposed Rulemaking that contains the preamble and the full text of the rules. The Secretary of State's Office publishes each Notice in the next available issue of the *Register* according to the schedule of deadlines for *Register* publication.

Under the Administrative Procedure Act (A.R.S. § 41-1001 et seq.), an agency must allow at least 30 days to elapse after the publication of the Notice of Proposed Rulemaking in the Register before beginning any proceedings for adoption, amendment, or repeal of any rule. A.R.S. §§ 41-1013 and 41-1022.

## NOTICE OF PROPOSED RULEMAKING

### TITLE 18. ENVIRONMENTAL QUALITY

### CHAPTER 4. DEPARTMENT OF ENVIRONMENTAL QUALITY
### SAFE DRINKING WATER

### PREAMBLE

1. **Section Affected** — **Rulemaking Action**
   R18-4-304.01 — New Section

2. **The statutory authority for the rulemaking, including both the authorizing statute (general and the statutes the rules are implementing (specific):**
   A.R.S. § 49-202(A) and § 49-203(A)(8) (authorizing statutes)

   A.R.S. § 49-353 (statute the rules implement)

3. **The name and address of agency personnel with whom persons may communicate regarding the rulemaking:**

   Name: Mr. Steven Pawlowski

   Address: Arizona Department of Environmental Quality
   3033 N. Central Avenue
   Phoenix, Arizona 85012

   Telephone: (602) 207-2227

   Fax Number: (602) 207-2251

4. **An explanation of the rule, including the agency's reasons for initiating the rule:**
   The Safe Drinking Water rules include a Section which is commonly known as the surface water treatment rule (See A.A.C. R18-4-301). The surface water treatment rule requires that each "surface water system" provide treatment by filtration and disinfection to effectively remove and inactivate *Giardia lamblia* cysts and viruses from source water. The term, "surface water system," includes public water systems that use "groundwater that is under the direct influence of surface water" as a source of drinking water (See A.A.C. R18-4-101(90)). The term, "groundwater under the direct influence of surface water," means any water beneath the surface of the ground with either:

   1) a significant occurrence of insects or other macroorganisms, algae, large diameter pathogens, such as *Giardia lamblia*, or total coliform; or

   2) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which correlate to climatological or surface water conditions (See A.A.C. R18-4-101(41)).

   While Arizona's Safe Drinking Water rules include a definition of "groundwater under the direct influence of surface water" at R18-4-101(41), the rules are silent regarding how ADEQ is to make the determination that groundwater is under the direct influence of surface water. For example, the rules are silent with respect to how ADEQ determines that there is a "significant" occurrence of insects or other macroorganisms, algae, large diameter pathogens, or total coliform in groundwater. Nor do the current rules explain what constitutes a "significant and relatively rapid shift" in water characteristics which correlate to climatological or surface water conditions.

   The Arizona Department of Environmental Quality (ADEQ) is required, as a condition of maintaining primacy over the Public Water System Supervision Program, to develop and implement a program for evaluating public water systems that use a groundwater source to determine whether the groundwater source is under the direct influence of surface water. The evaluation of groundwater systems is a special primacy requirement that is prescribed in National Primary Drinking Water Regulations at 40 CFR § 142.16(b)(2)(B). Under 40 CFR § 142.16(b)(2)(B), ADEQ was supposed to have completed the evaluation of all community

groundwater systems by June 29, 1994. ADEQ must complete the evaluation of all noncommunity groundwater systems by June 29, 1999.

The proposed rule prescribes specific procedures that ADEQ will use to determine whether groundwater is under the direct influence of surface water. First, the proposed rule prescribes criteria which ADEQ will use to identify groundwater sources that may be under the direct influence of surface water and which will require further evaluation. "Suspect" groundwater sources include springs, infiltration galleries, horizontal wells, wells that are located within 500 feet of a surface water, shallow wells that are less than 50 feet deep, dug or bored wells, and any groundwater source with recurring violations of the interim maximum contaminant level for turbidity or the maximum contaminant level for total coliform.

ADEQ has conducted a records review to obtain data on public water systems which utilize groundwater sources. ADEQ has reviewed sanitary survey records, compliance records, its own Public Water System Supervision database, and Arizona Department of Water Resources records to identify public water systems which utilize springs, infiltration galleries, horizontal wells, shallow wells, wells that are located within 500 feet of a surface water, and groundwater systems with recurring microbiological and turbidity contamination problems. This records review generated a master list of 221 public water systems located outside of Maricopa and Pima Counties which utilize groundwater sources and which require further evaluation by ADEQ. ADEQ's master list does not include public water systems that are located within Maricopa and Pima Counties because these 2 counties have delegated public water system supervision programs and the counties are responsible for implementing the surface water treatment rule and identifying suspect groundwater systems within their respective jurisdictions.

The total number of regulated public water systems that are located outside of Maricopa and Pima Counties is approximately 1200. Thus, the 221 public water systems that ADEQ identified as requiring further evaluation represent less than 20% of all the public water systems that are located outside of Maricopa and Pima Counties. There are approximately 500 public water systems in Maricopa and Pima Counties. Maricopa and Pima Counties have not reviewed data on public water systems located within their jurisdictions to generate a master list of public water systems which need to be evaluated to determine whether they are "suspect" groundwater systems. For purposes of the preliminary summary of economic impact of the proposed rule, ADEQ assumes that approximately 20% of the 500 public water systems, or approximately 100 public water systems, will require further evaluation in Maricopa and Pima Counties and will be directly affected by the proposed rule. This estimate may be high because Maricopa and Pima Counties are arid and relatively flat and a larger percentage of public water systems in these counties rely on deep wells.

As of June 1, 1997, ADEQ has determined from on-site inspections that 83 of the 221 public water systems, or 38% of the public water systems on the ADEQ master list utilize a groundwater source that is suspected of being under the direct influence of surface water. ADEQ has not completed on-site inspections of all 221 public water systems on its master list. The 83 public water systems that have been identified by ADEQ so far represent the minimum number of public water systems that will be directly affected by the proposed rule. The number of public water systems that are directly affected by the proposed rule probably will increase as ADEQ completes on-site inspections of the remaining systems on its master list. ADEQ estimates that approximately 50% of the remaining public water systems will be affected by the proposed rule. Also, there will be public water systems located within Maricopa and Pima counties that will be identified as utilizing suspect groundwater sources.

Under the proposed rule, a public water system that utilizes a suspect groundwater source is required to conduct monitoring to determine whether the groundwater is under the direct influence of surface water. The proposed rule prescribes the use of the "EPA Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA)," EPA 910/9-92-029, U.S. Environmental Protection Agency, Manchester Environmental Laboratory (October, 1992). The MPA is a quantitative method which uses certain bioindicators which typically occur in surface water and whose presence in groundwater indicates that at least some surface water is mixed in with the groundwater. These bioindicators include: *Giardia lamblia* cysts, coccida, helminths, pigment-bearing diatoms, chlorophyll-containing algae, insects, insect parts, insect larvae, rotifers, and plant debris. The MPA assigns a relative risk factor to each bioindicator based upon the health risk significance of the bioindicator, the significance of the bioindicator as an indicator of surface water contamination, and the concentration of the bioindicator per 100 gallons of water. The MPA results in a risk rating which categorizes a groundwater source as being at low, moderate, or high risk of surface water contamination.

Under the proposed rule, ADEQ will utilize the MPA risk ratings as the basis for making the determination whether a groundwater source is or is not under the direct influence of surface water. If the results of the initial MPA indicate that a groundwater source is at high risk of surface water contamination, then ADEQ will determine that the source is groundwater which is under the direct influence of surface water. If the MPA results of the initial sample indicate that the suspect groundwater source is at moderate or low risk of surface water contamination, then ADEQ will require that at least 1 additional groundwater sample be collected for microscopic particulate analysis. If the MPA results from the initial sample and the follow-up sample both indicate that the groundwater source is at moderate risk of surface water contamination, then ADEQ will determine that the groundwater is under the direct influence of surface water. If the MPA results of the initial and follow-up samples both indicate that the groundwater source is at low risk of surface water contamination, then ADEQ will determine that the groundwater is not under the direct influence of surface water. If the MPA results of the initial and follow-up samples are split (that is, 1 sample result indicates a low risk of surface water contamination and the other sample result indicates a moderate risk of surface water contamination), then ADEQ will require that a 3rd sample be collected. If 2 out of 3 MPA sample results indicate that the groundwater source is at moderate risk of surface water contamination, then ADEQ will make a determination that the groundwater is under the direct influence of surface water. If 2 out of 3 MPA results indicate that the groundwater source is at low risk of surface water contamination, then ADEQ will make a determination that the groundwater is not under the direct influence of surface water contamination. If, at any time, a MPA result indicates that the groundwater is at high risk of surface water contamination, then ADEQ will make the deter-

mination that the groundwater is under the direct influence of surface water. The following chart presents this decision matrix:

| Initial Sample | 2nd Sample | 3rd Sample | GW under the direct influence of SW |
|---|---|---|---|
| High | | | Yes |
| Moderate | High or Moderate | | Yes |
| Moderate | Low | High or Moderate | Yes |
| Moderate | Low | Low | No |
| Low | High | | Yes |
| Low | Moderate | High or Moderate | Yes |
| Low | Moderate | Low | No |
| Low | Low | | No |

The proposed rule requires that a public water system with a suspect groundwater source conduct MPA monitoring "as scheduled by the Department." ADEQ will schedule MPA monitoring for 2 reasons. First, ADEQ will schedule MPA monitoring because a suspect groundwater source should be evaluated during the period of time of its highest susceptibility to direct influence by surface water. For example, a groundwater source may be subject to influence by surface water only after a rainfall event when a nearby ephemeral stream is flowing or when winter snowmelt causes a nearby intermittent stream to flow. Accordingly, ADEQ will schedule sample collection from suspect groundwater sources during their period of greatest susceptibility to surface water contamination. Second, ADEQ may schedule MPA monitoring at times when ADEQ Field Services staff are available to observe and assist with sample collection and MPA sampling procedures.

The proposed rule prescribes the administrative procedures for appealing an ADEQ determination that groundwater is under the direct influence of surface water. In general, an ADEQ determination that groundwater is under the direct influence of surface water is considered an "appealable agency action" which may be appealed to an administrative law judge appointed by the Office of Administrative Hearings. Hearing procedures are governed by the State Administrative Procedures Act.

5. **A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:** Not applicable

6. **The preliminary summary of the economic, small business, and consumer impact:**

The proposed rule will directly affect public water systems that are suspected of utilizing groundwater that is under the direct influence of surface water as a source. A public water system with a "suspect" groundwater source will be required to conduct MPA monitoring of the source. Under the proposed rule, a public water system may have to collect 1 to 3 samples and pay for the MPA tests, depending upon the results of each MPA.

ADEQ has identified approximately 221 public water systems outside of Maricopa and Pima Counties which may utilize groundwater that is under the direct influence of surface water and which may be required to conduct MPA monitoring. These 221 public water systems represent the known universe of public water systems that are located outside of Maricopa and Pima counties that are potentially affected by the proposed rule.

ADEQ has not conducted on-site inspections of all 221 public water systems that have been preliminarily identified as utilizing a "suspect" groundwater source. As of June 1, 1997, ADEQ has identified 83 public water systems which utilize a groundwater source that is suspected of being under the direct influence of surface water (38% of systems on the master list). If the proposed rule becomes effective, then the water suppliers for at least 83 public water systems will be required to conduct MPA monitoring of the "suspect" groundwater sources on a schedule that is established by ADEQ. It is likely that more than 83 public water systems will be required to conduct MPA monitoring. As ADEQ completes on-site inspections of the 221 public water systems identified on the ADEQ master list, ADEQ may identify more public water systems which will be required to conduct MPA monitoring. Also, an unknown percentage of the 500 public water systems in Maricopa and Pima counties will be required to conduct MPA monitoring. If 1 assumes that 20% of all of the public water systems in Maricopa and Pima counties will be preliminarily identified as utilizing a suspect groundwater source and will be included on county master lists for further evaluation, then 100 additional public water systems may be affected by the proposed rule. 20% is a reasonable assumption because only 18.6% of all of the public water systems located outside of Maricopa and Pima counties were preliminarily identified as utilizing a suspect groundwater source and included on ADEQ's master list of 221 public water systems.

The cost of conducting a single MPA test is approximately $300. Under the proposed rule, a public water system may have to conduct 1 to 3 MPA tests per suspect groundwater source. Thus, each public water system that is required to conduct MPA monitoring will have to spend $300 - $900 per suspect source to comply with the monitoring requirements that are prescribed in the proposed

rule. At a minimum, the total cost of MPA monitoring for all public water systems in Arizona is $24,900. This least cost estimate is based on the following assumptions:

1) Only 83 public water systems are required to conduct MPA monitoring and no additional public water systems are identified as having a suspect groundwater source,

2) that 83 public water systems that have been preliminarily identified as utilizing a suspect groundwater source have only 1 source, and

3) that all 83 public water systems conduct only 1 MPA test (that is, 83 x $300). This least cost scenario is highly unlikely for several reasons: First, it is probable that more than 83 public water systems will be required to conduct MPA monitoring. Second, it is highly unlikely that all public water systems will conduct only 1 MPA test. To conduct a single MPA test, the initial MPA result would have to indicate a high risk of surface water contamination. It is highly unlikely that 100% of the initial MPA tests will indicate a high risk of surface water contamination. It is more likely that the results of initial MPA monitoring will indicate a low or moderate risk of surface water contamination and that public water systems will be required to conduct at least 1 and possibly 2 more MPA tests. ADEQ anticipates that most public water systems that are required to conduct MPA monitoring will conduct 2 tests. Third, while the large majority of public water systems that have been preliminarily identified have a single groundwater source, some public water systems may have more than 1 suspect groundwater source that will require MPA monitoring.

As noted earlier, approximately 38% of the public water systems on ADEQ's master list of 221 public water systems have been identified as utilizing "suspect" groundwater sources. If 1 assumes that 83 of the 221 public water systems are required to conduct MPA monitoring and each public water system conducts 2 MPA tests at a single source, then the estimated total cost of MPA monitoring for public water systems outside of Maricopa and Pima counties rises from the least cost estimate of $24,900 to $49,800 (that is, 83 x $600). By making additional assumptions regarding the number of public water systems in Maricopa and Pima counties that will be required to conduct MPA monitoring, 1 can develop a cost estimate for all public water systems in Arizona. If 1 assumes that 20% of the 500 systems in Maricopa and Pima counties will be included on the county master lists as requiring further evaluation, then 100 additional public water systems may be potentially affected by the proposed rule. If 1 assumes that of these 100 public water systems, 38% will be identified as utilizing suspect groundwater sources and will be required to conduct 2 MPA tests, then the additional cost of MPA monitoring for public water systems in Maricopa and Pima Counties is $22,800 (that is, 38 x $600). Based on these assumptions, the cost estimate for all public water systems in Arizona is $72,600 (that is, based on the assumption that 121 public water systems statewide conduct 2 MPA tests each).

If 1 assumes that 50% of the 221 public water systems on the ADEQ master list, or 110 public water systems, are required to conduct MPA monitoring and that each public water system conducts 2 MPA tests, then the estimated total cost of MPA monitoring is $66,000 (that is, 110 x $600). If 1 assumes that 50% of 100 public water systems in Maricopa and Pima counties, or 50 public water systems, will be required to conduct MPA monitoring, then 1 can estimate the total cost of MPA monitoring for public water systems in Arizona. The additional cost of MPA monitoring by 50 additional public water systems is $30,000 (that is, 50 x $600). Thus, if 50% of the public water systems that are identified by ADEQ and the counties have to conduct MPA monitoring and each public water system conducts 2 tests, then the estimated cost of MPA monitoring statewide is $96,000 (that is, 160 x $600). If 1 uses the same analysis but assumes that 75% of the public water systems that are identified by ADEQ and the counties have to conduct MPA monitoring and each public water system conducts 2 tests, then the estimated cost of MPA monitoring statewide is $144,000 (240 x $600). The most likely scenario is that 50% to 75% of the public water systems that are identified by ADEQ and the counties will be required to conduct MPA monitoring and that each public water system will conduct 2 tests. Thus, the most likely cost estimate is $96,000 to $144,000.

The maximum estimated cost of MPA monitoring for all public water systems that are located outside of Maricopa and Pima counties is $198,900. This maximum cost estimate is based on the following assumptions:

1) 100% or all 221 public water systems that are included on the ADEQ master list are required to conduct MPA monitoring, and

2) each public water system conducts the maximum number of MPA tests required under the proposed rules (3). If 1 assumes that 100% of the public water systems that are identified by Maricopa and Pima counties as having suspect groundwater sources, or 100 additional public water systems, conduct 3 MPA tests each, then the additional estimated cost for systems in Maricopa and Pima counties is $90,000. The maximum estimated cost for all public water systems, including public water systems in Maricopa and Pima counties, is $288,900.

This maximum cost scenario is highly unlikely for several reasons. First, it is highly unlikely that all 221 public water systems that are on the ADEQ master list and 100 additional systems in Maricopa and Pima counties will be required to conduct MPA monitoring. Second, it is unlikely that all public water systems that are required to conduct MPA monitoring will have to conduct the maximum number of MPA tests. Some public water systems will have MPA risk ratings which allow a determination to be made after 1 or 2 MPAs are performed.

The previous cost estimates can be summarized as follows:

1. Least cost estimate: $24,900 (highly unlikely; based on only 83 public water systems conducting only 1 MPA test each, does not include systems in Maricopa and Pima counties)

2. Probable least cost estimate: $72,600 (unlikely; assumes that only 38% of the public water systems that are preliminarily identified as utilizing suspect groundwater sources are required to conduct MPA monitoring and that each system conducts 2 MPA tests)

3. Average cost estimate: $96,000 (probable; assumes that 50% of all public water systems that are preliminarily identified as utilizing suspect groundwater sources are required to conduct MPA monitoring and that each system conducts 2 MPA tests).

4. High cost estimate: $144,000 (probable; assumes that 75% of all public water systems that are preliminarily identified as utilizing suspect groundwater sources are required to conduct MPA monitoring and that each public water system conducts 2 MPA tests).

5. Maximum cost estimate: $288,900 (highly unlikely; assumes that 100% of all public water systems that are preliminarily identified as utilizing suspect groundwater sources are required to conduct MPA monitoring and that each public water system conducts 3 MPA tests).

The least cost and maximum cost estimates provide the outer boundaries of the range for the cost of MPA monitoring to public water systems. ADEQ estimates that the total cost of MPA monitoring for all public water systems in Arizona probably will fall between $96,000 and $144,000. It is reasonable to assume that more public water systems will be identified as having suspect groundwater sources than the 38% of public water systems that have been identified as having suspect groundwater sources so far. However, it is unlikely that more than 75% of all public water systems that have been preliminarily identified as having suspect groundwater sources will actually have to conduct MPA monitoring. ADEQ also believes it is reasonable to assume that most public water systems will conduct 2 MPA tests because ADEQ anticipates that most initial MPA tests will indicate low or moderate risks of surface water contamination.

The cost for MPA monitoring for each individual public water system will fall between $300 - $900 per suspect groundwater source. ADEQ believes that most public water systems that are required to conduct MPA monitoring will have to conduct 2 MPA tests and pay approximately $600.

It should be noted that the cost of MPA monitoring under the proposed rule translates into a benefit for testing laboratories with the capability of performing microscopic particle analysis ADEQ is aware of only 1 testing laboratory in Arizona with the capability of performing the MPA. Obviously, any ADEQ rule which requires MPA monitoring will result in increased business and revenues for this Arizona testing laboratory. While there are other testing laboratories in the United States which perform the MPA, it is likely that public water systems in Arizona will utilize the services of the in-state laboratory. Thus, the in- state testing laboratory will be the primary beneficiary of the proposed rule until other testing laboratories within the state develop the capability to perform MPA. Whatever the actual cost of MPA monitoring to the public water systems is (that is, $24,900 to $288,900) will translate into an equal benefit which will accrue primarily to the 1 in-state laboratory with the capability of performing the MPA test. Obviously, other testing laboratories may develop the capability to perform the MPA to compete for a share of any MPA business and revenues that are generated by the proposed rule.

It should be noted that a final determination that a groundwater source is under the direct influence of surface water has economic consequences. The currently effective surface water treatment rule, R18-4-301(C), states that a public water system with a source that is determined to be groundwater under the direct influence of surface water must provide filtration and disinfection treatment within 18 months of the date that ADEQ determines that the groundwater is under the direct influence of surface water. Obviously, any regulatory requirement to install and use filtration and disinfection treatment will result in additional capital expenditures and increased operation and maintenance costs for those public water system that must install treatment to comply with the surface water treatment rule. The cost of installing filtration and disinfection treatment will vary depending upon the size of the public water system and the type of technology that is installed.

ADEQ does not anticipate increased costs to the agency resulting from the proposed rule. No additional full-time employees will be required to implement the proposed rule. The on-site evaluation of public water systems to determine whether they must conduct MPA monitoring will be integrated into normal inspections and sanitary surveys of public water systems that are conducted by ADEQ field services staff.

7. **The name and address of agency personnel with whom persons may communicate regarding the accuracy of the summary of the economic, small business, and consumer impacts:**

| | |
|---|---|
| Name: | Mr. David Lillie |
| Address: | Arizona Department of Environmental Quality<br>3033 N. Central Avenue<br>Phoenix, Arizona 85012 |
| Telephone: | (602) 207-4436 |
| Fax number: | (602) 207-2251 |

8. **The time, place, and nature of the proceedings for the adoption of the rule:**

| | |
|---|---|
| Date: | August 26, 1997 |
| Time: | 1:30 p.m. |
| Location: | Public Meeting Room<br>Arizona Department of Environmental Quality |

3033 N. Central Avenue
Phoenix, Arizona

Date: August 28, 1997

Time: 1:30 p.m.

Location: Arizona Corporation Commission Hearing Room 222
Arizona State Office Complex
400 W. Congress
Tucson, Arizona

Date: September 2, 1997

Time: 1:30 p.m.

Location: City Council Chambers
211 W. Aspen
Flagstaff, Arizona

Written comments on the proposed rule may be submitted to the Department. Written comments must be received by the close of business or postmarked on September 12, 1997. Written comments should be addressed to:

Name: Mr. Steven Pawlowski

Address: Arizona Department of Environmental Quality
3033 N. Central Avenue
Phoenix, Arizona 85012

9. **Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:**
None applicable

10. **Incorporation by reference and their location in the rules:**
"Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA)," EPA 910/9-92-029, United States Environmental Protection Agency, Environmental Services Division (October, 1992) which is incorporated by reference in R18-4-301.01(C)(2).

11. **The full text of the rules follows:**

## TITLE 18. ENVIRONMENTAL QUALITY

## CHAPTER 4. SAFE DRINKING WATER

### ARTICLE 3. TREATEMENT TECHNIQUES

Section
R18-4-301.01 Groundwater Under the Direct Influence of Surface Water

**R18-4-304.01. Groundwater Under the Direct Influence of Surface Water**

**A.** A public water system which uses any of the following sources is suspected of using groundwater that is under the direct influence of surface water:
1. Springs;
2. Infiltration galleries;
3. Horizontal wells;
4. Any well that is less than 500 feet from a surface water;
5. Shallow wells that are less than 50 feet from the ground surface to perforations or well screens;
6. Hand-dug wells or auger-bored wells without casings;
7. Any groundwater source with recurring exceedances of the maximum contaminant level for turbidity;
8. Any groundwater source that supplies a public water system with recurring violations of a maximum contaminant level for total coliform.
9. Any groundwater source where the temperature of the groundwater fluctuates 15% to 20% from the mean groundwater temperature over the course of a year or where changes in the temperature of the groundwater correlate to similar changes in the temperature of surface water.

**B.** The Department may require a public water system which is suspected of utilizing a groundwater source that is under the direct influence of surface water to conduct Microscopic Particle Analysis (MPA) monitoring of the groundwater source. The Department shall provide written notice to the public water system that the groundwater source is suspected of being under the direct influence of surface water and shall schedule MPA monitoring of the groundwater source. The Department shall schedule MPA monitoring at a time when the groundwater source is most susceptible to contamination by surface water.

**C.** A water supplier shall conduct Microscopic Particle Analysis (MPA) monitoring as follows:
1. Each sample for Microscopic Particle Analysis shall be representative of the groundwater source. A water supplier shall not take a sample of blended water or a sample of water from the distribution system.
2. Each sample shall be collected and analyzed according to the procedures prescribed in the "Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis

(MPA)," EPA 910/9-92-029, United States Environmental Protection Agency, Environmental Services Division (October, 1992) which is incorporated by reference and on file with the Office of the Secretary of State and the Department.

3. The Department shall use the MPA risk rating to determine whether groundwater is under the direct influence of surface water.
   a. If the risk rating of the initial sample indicates a high risk of surface contamination, then the Department shall determine that the groundwater is under the direct influence of surface water.
   b. If the risk rating of the initial sample indicates a moderate risk of surface contamination, then the water supplier shall collect a 2nd sample for microscopic particle analysis at the same sampling location on a date scheduled by the Department. If the risk rating of the 2nd sample indicates a high or moderate risk of surface contamination, then the Department shall determine that the groundwater is under the direct influence of surface water. If the risk rating of the 2nd sample indicates a low risk of surface contamination, then the water supplier shall collect a 3rd sample for microscopic particle analysis at the same sampling location on a date scheduled by the Department.
   c. If the risk rating of the initial sample indicates a low risk of surface contamination, then the water supplier shall collect a 2nd sample for microscopic particle analysis at the same sampling location on a date scheduled by the Department. If the risk rating of the 2nd sample indicates a low risk of surface contamination, then the Department shall determine that the groundwater is not under the direct influence of surface water. If the risk rating of the 2nd sample indicates a high risk of surface contamination, then the Department shall determine that the groundwater is under the direct influence of surface water. If the risk rating of the 2nd sample indicates a moderate risk of surface contamination, then the water supplier shall collect a 3rd sample for microscopic particle analysis at the same sampling location on a date scheduled by the Department.
   d. If a 3rd sample is required and the risk rating of the 3rd sample indicates a high or moderate risk of surface contamination, then the Department shall determine that the groundwater is under the direct influence of surface water. If the risk rating of the 3rd sample indicates a low risk of surface water contamination, then the Department shall determine that the groundwater is not under the direct influence of surface water

| Initial Sample | 2nd Sample | 3rd Sample | GW under the direct influence of SW |
|---|---|---|---|
| High | | | Yes |
| Moderate | High or Moderate | | Yes |
| Moderate | Low | High or Moderate | Yes |
| Moderate | Low | Low | No |
| Low | High | | Yes |
| Low | Moderate | High or Moderate | Yes |
| Low | Moderate | Low | No |
| Low | Low | | No |

**D.** A public water system with a source that is determined to be groundwater under the direct influence of surface water shall provide treatment by filtration in accordance with R18-4-302 and disinfection in accordance with R18-4-303 within 18 months of the date that the Department makes the final determination that the groundwater is under the direct influence of surface water.

**E.** The Department shall provide written notice to the water supplier of a determination that a groundwater source is under the direct influence of surface water. The notice shall state that the determination that a groundwater source is under the direct influence of surface water is an "appealable agency action" as defined in A.R.S. § 41-1092(3). The notice shall state that the water supplier may request an informal settlement conference with the Department pursuant to A.R.S. § 41-1092.06. A water supplier may appeal the Department's determination that a groundwater source is under the direct influence of surface water by serving a Notice of Appeal with the Department pursuant to A.R.S. § 41-1092.04. The water supplier shall file a Notice of Appeal with the Manager of the Drinking Water Section within 30 days after receiving notice of the Department's determination that the groundwater source is under the direct influence of surface water. The water supplier shall briefly state the grounds for the appeal in the Notice of Appeal. The Department shall notify the Office of Administrative Hearings which shall schedule a hearing on the appeal within 60 days of the date that the Notice of Appeal is filed with the Department. Hearings shall be conducted according to the hearing procedures that are prescribed in A.R.S. § 41-1092.07.